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PATENT MAINTENANCE DIVISION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

2005 AUG -9 AM 9:21
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Applicant(s): Sieracki

Serial No.: 10/748,182

Filed: 12/31/2003

Title: Greedy Adaptive Signature Discrimination System and Method

Group Art Unit: 2863

Examiner: Bryan Bui

Attorney Docket No.: 90013.0.1

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR REFUND

Dear Sir:

This is a Request for Refund of the $475.00 charged to Deposit Account No. 50-2383 on July 29, 2005, for Fee Code 2202, Claims in Excess of 20, in regard to the above-identified application. A copy of the Deposit Account Statement is enclosed.

A Response to the outstanding Office Action dated May 16, 2005, was filed on July 19, 2005 (copy enclosed). Although several claims were amended, the dependency of these claims was not changed, and no new claims were added, therefore, no additional claim fees were due.

We recognize that the above application contains more than 20 claims, more than 3 independent claims, and multiple dependent claims, however, we authorized the Commissioner to charge our deposit account for the additional and multiple dependent claim fees when we filed our Preliminary Amendment on December 23, 2004.

It is respectfully requested that $475.00 be refunded to Deposit Account No. 50-2383.

Respectfully submitted,

I hereby certify that this Correspondence is being deposited with the United States Postal service with sufficient postage for first class mail in an envelope address to the Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450, or the correspondence is being facsimile transmitted to the USPTO, on the date indicated below.

Date of Deposit: August 2, 2005

Typed Name: Lori L. Stewart

Signature: Lori L Stewart

Frederick C. Williams
Attorney/Agent for Applicant(s)
Reg. No. 36,969

Date: August 2, 2005

Telephone No.: (202) 842-0445

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Requested Statement Month:	July 2005
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07/01	1055	[redacted]				
07/05	306	[redacted]		8521	$40.00	$9,381.00
07/06	132	[redacted]	[redacted]	7001	$325.00	$9,056.00
07/06	134	E-REPLENISHMENT		7001	$325.00	$8,731.00
07/06	147	[redacted]	[redacted]	9203	-$425.00	$9,156.00
07/06	210	[redacted]		2005	$100.00	$9,056.00
07/06	211	[redacted]		8507	$30.00	$9,026.00
07/06	212	[redacted]		8514	$50.00	$8,976.00
07/07	73	[redacted]		8524	$40.00	$8,936.00
07/07	74	[redacted]	[redacted]	8521	$40.00	$8,896.00
07/08	551	[redacted]		8522	$75.00	$8,821.00
07/11	311	[redacted]		7001	$650.00	$8,171.00
07/12	58	E-REPLENISHMENT		7003	$100.00	$8,071.00
07/12	275	[redacted]		9203	-$1,195.00	$9,266.00
07/12	276	[redacted]	[redacted]	7205	$100.00	$9,166.00
07/12	430	[redacted]		7201	$400.00	$8,766.00
07/12	431	[redacted]		7205	$100.00	$8,666.00
07/13	10	[redacted]		7201	$400.00	$8,266.00
07/13	29	[redacted]	[redacted]	2252	$225.00	$8,041.00
07/13	175	[redacted]		8021	$80.00	$7,961.00
07/18	387	[redacted]		2551	$450.00	$7,511.00
07/18	526	[redacted]		8021	$40.00	$7,471.00
07/19	62	[redacted]		8021	$40.00	$7,431.00
07/20	1	[redacted]	[redacted]	2051	$65.00	$7,366.00
07/21	6	E-REPLENISHMENT		1806	$180.00	$7,186.00
07/21	536	[redacted]		9203	-$1,635.00	$8,821.00
07/22	1313	[redacted]		8021	$40.00	$8,781.00
07/22	1314	[redacted]		8021	$40.00	$8,741.00
07/27	47	E-REPLENISHMENT		8021	$40.00	$8,701.00
07/28	138	[redacted]	[redacted]	9203	-$2,000.00	$10,701.00
07/29	1	10748182	90013.0.1	2005	$100.00	$10,601.00
07/29	50	[redacted]	[redacted]	2202	$475.00	$10,126.00
				2253	$510.00	$9,616.00

START BALANCE	SUM OF CHARGES	SUM OF REPLENISH	END BALANCE
$9,421.00	$5,060.00	$5,255.00	$9,616.00

OIPE JC37
AUG 03 2005
PATENT & TRADEMARK OFFICE

Docket No. 90013.0.1

Serial/Patent No. 10/748,182

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TRANSMITTAL FORM

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Total Number of Pages in This Submission

Application Number	10/748,182
Filing Date	Dec 31, 2003
First Named Inventor	Sieracki, Jeffrey M.
Art Unit	2863
Examiner Name	Bui, Bryan
Attorney Docket Number	90013.0.1

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ENCLOSURES *(Check all that apply)*

- ☐ Fee Transmittal Form
  - ☐ Fee Attached
- ☒ Amendment / Reply
  - ☐ After Final
  - ☐ Affidavits/declaration(s)
- ☐ Extension of Time Request
- ☐ Express Abandonment Request
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- ☐ Reply to Missing Parts/ Incomplete Application
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Remarks

SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT

Firm Name	Burns & Levinson LLP — Customer Number 40320
Signature	Frederick C. Williams
Printed name	Frederick C. Williams
Date	July 19, 2005
	Reg. No. 36969

CERTIFICATE OF TRANSMISSION/MAILING

I hereby certify that this correspondence is being facsimile transmitted to the USPTO or deposited with the United States Postal Service with sufficient postage as first class mail in an envelope addressed to: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on the date shown below.

Signature	Lori L. Stewart
Typed or printed name	Lori L. Stewart
Date	July 19, 2005

This collection of information is required by 37 CFR 1.5. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Sieracki

Application No.: 10/748,182

Filed: 12/31/2003

Title: Greedy Adaptive Signature Discrimination System and Method

Attorney Docket No.: 90013.0.1

OIPE JC37 AUG 0 3 2005 PATENT & TRADEMARK OFFICE

Art Unit: 2863

Examiner: Bui, Bryan

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Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER 37 CFR 1.111

Dear Sir:

In response to the Office Action of May 16, 2005, please amend this application as follows:

AMENDMENTS TO THE CLAIMS

Claims 1-4 (cancelled).

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5. (currently amended) Apparatus for ascertaining a signature characteristic of a collection of signals for discriminating between and among such signals and for classifying other signals using said signature, said apparatus comprising:

a) a dictionary comprising a plurality of prototype signals;

b) means for selecting a specific prototype signal such that for at least one signal of the collection ~~the~~ an inner product with the selected prototype is non-zero;

c) means for recording the selected prototype signal;

d) means for subtracting from each signal in the collection ~~the~~ a projection of that signal on the specific prototype signal and for redesignating the result of the subtraction as the signal in the collection for the next iteration;

e) means for imposing a stop criterion; and

f) means for directing the apparatus back to means (b) unless the stop criterion is met.

6. (currently amended) Apparatus for ascertaining a signature characteristic of a collection of signals for discriminating between and among such signals and for classifying other signals using said signature, comprising:

a) a dictionary comprising a plurality of prototype signals;

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b) means for determining an inner product between each of the signals in the collection and at least one of the prototype signals in the dictionary;

c) means for selecting a specific prototype signal such that for at least one signal of the collection the inner product of the specific prototype signal with the at least one signal of the collection is non-zero;

d) means for recording the specific prototype signal and the inner product of each of the signals from the collection with the prototype signal;

e) means for subtracting from each signal in the collection ~~the~~ a projection of the ~~that~~ signal on the specific prototype signal and for redesignating the result of the subtraction as the signal in the collection for the next iteration;

f) means for imposing a stop criterion; and

g) means for directing the apparatus back to means (b) unless the stop criterion is met.

7. (currently amended) Apparatus for ascertaining a signature characteristic of a collection of signals for discriminating between and among such signals and for classifying other signals using said signature, comprising:

a) a dictionary comprising a plurality of prototype signals;

b) a subdictionary which is a subset of the dictionary;

c) means for determining an inner product p-norm for the signals in the collection for each of the prototype signals in the subdictionary;

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d) means for selecting a specific prototype signal in the subdictionary that substantially maximizes said inner product p-norm;

e) means for recording the specific prototype signal and ~~the~~ an inner product of each of the signals from the collection with the prototype signal;

f) means for subtracting from each signal in the collection ~~the~~ a projection of the ~~that~~ signal on the specific prototype signal and for redesignating the result of the subtraction as the signal in the collection for the next iteration;

g) means for imposing a stop criterion; and

h) means for directing the apparatus back to means (c) unless the stop criterion is met.

8. (currently amended) Apparatus for ascertaining a signature characteristic of a collection of signals for discriminating between and among such signals and for classifying other signals using said signature, comprising:

a) a dictionary comprising a plurality of prototype signals;

b) a subdictionary which is a subset of the dictionary;

c) means for determining an inner product p-norm for the signals in the collection for each of the prototype signals in the subdictionary;

d) means for selecting a specific prototype signal in the subdictionary that substantially maximizes said inner product p-norm ;

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e) means for determining, for each individual signal in the collection, a separate prototype signal that locally maximizes the magnitude of ~~the~~ an inner product of the separate prototype signal with the individual signal from the collection;

f) means for recording the separate prototype signal and the maximized inner product of each individual signal from the collection with each determined separate prototype signal;

g) means for subtracting from each signal in the collection ~~the~~ a projection of the ~~that~~ signal on the specific prototype signal and for redesignating the result of the subtraction as the signal in the collection for the next iteration;

h) means for imposing a stop criterion; and

i) means for directing the apparatus back to means (c) unless the stop criterion is met.

9. (currently amended) A method for ascertaining and identifying similarities and differences among members of a collection of signals and for representing a collection of signals in an easily compared format, comprising the steps of:

a) establishing a dictionary comprising a plurality of prototype signals;

b) selecting a specific prototype signal from the dictionary such that ~~the~~ an inner product of said prototype with at least one signal of the collection is non-zero;

c) recording the selected prototype signal and recording its inner product with each of the signals from the collection;

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d) subtracting from each signal in the collection ~~the~~ a projection of that signal on the selected prototype signal and redesignating the result of the subtraction as the signal in the collection for the next iteration;

e) imposing a stop criterion; and

f) repeating steps (b) through ~~(f)~~ (e) until the stop criterion is met.

10. (currently amended) The method of Claim 9, wherein the step of selecting a specific prototype signal from the dictionary comprises determining which prototype in the dictionary substantially maximizes ~~the~~ an inner product p-norm for the signals in the collection.

11. (previously presented) The method of Claim 9, wherein the step of selecting a specific prototype signal from the dictionary is followed by an additional step of searching for an improved prototype signal choice in the dictionary or in a second dictionary.

12. (previously presented) The method of Claim 9, wherein the dictionary comprises a set of Gabor atoms.

13. (currently amended) A method for ascertaining and identifying similarities and differences among members of a collection of signals and for representing a collection of signals in an easily compared format, comprising the steps of:

a) establishing a dictionary comprising a plurality of prototype signals;

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b) selecting a first specific prototype signal from the dictionary such that that ~~the~~ an inner product of said prototype with at least one signal of the collection is non-zero;

c) for each individual signal in the collection, selecting an improved prototype signal from the dictionary that is similar to the first specific prototype signal but has a larger inner product magnitude with ~~the given~~ said each individual signal;

d) recording each improved prototype signal and recording its respective inner product with the corresponding signal from the collection;

e) subtracting from each signal in the collection ~~the~~ a projection of its respective improved prototype signal and redesignating the result of the subtraction as the signal in the collection for the next iteration;

f) imposing a stop criterion; and

g) repeating steps (b) through (f) until the stop criterion is met.

14. (previously presented) The method of Claim 13, wherein the step of selecting a first specific prototype signal from the dictionary comprises determining which prototype in the dictionary substantially maximizes ~~the~~ an inner product p-norm for the signals in the collection.

15. (previously presented) The method of Claim 13, wherein the step of selecting an improved prototype for each individual signal in the collection is conducted by searching a dictionary that differs from the dictionary used to establish the first specific prototype.

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16. (previously presented) The method of Claim 13, wherein the dictionary comprises a set of Gabor atoms.

17. (previously presented) The method of Claim 13, wherein

a) the dictionary comprises a set of prototype signals that are parameterized in at least one variable; and

b) the step of selecting an improved prototype for each individual signal in the collection is constrained in order to limit parameter variation between said improved prototypes.

18. (previously presented) A method of characterizing at least one group of signals and of expressing and visualizing its characteristics, comprising the steps of

a) creating an aggregate collection of signals comprising all groups of interest;

b) parameterizing a dictionary of prototype signals in at least one variable;

c) applying the method of either Claim 9 or Claim 13 in order to represent each signal in said aggregate collection in terms of at least one prototype dictionary element; and

d) calculating a parametric mean over at least one group of interest.

19. (previously presented) A method of ascertaining and characterizing similarities and differences in and between signals or groups of signals and of expressing and visualizing said characteristics, comprising the steps of:

a) creating an aggregate collection of signals comprising all groups of interest;

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b) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said aggregate collection in terms of at least one prototype dictionary element;

c) determining for each subgroup those component prototype elements selected in step (b) that satisfy a similarity threshold test; and

d) determining for each pair of subgroups those component prototype elements selected in (b) that satisfy a difference threshold test.

20. (previously presented) The method of Claim 19, wherein

a) the dictionary comprises a set of prototype signals that are parameterized in at least one variable; and

b) after applying either the method of Claim 9 or the method of Claim 13, a parametric mean is calculated for each signal group of interest.

21. (previously presented) The method of Claim 19, wherein the similarity threshold test keeps only those components whose mean coefficients are larger in magnitude than some set value.

22. (previously presented) The method of Claim 19, wherein the similarity threshold test keeps only those components whose coefficient and/or other parameter values are sufficiently close to the group mean.

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23. (previously presented) The method of Claim 19, wherein the similarity threshold test keeps only those components whose coefficients and/or other parameter values have sufficiently small group variance.

24. (previously presented) The method of Claim 19, wherein the difference threshold test keeps only those components whose coefficients and/or other parameter values differ between groups by more than some threshold amount.

25. (previously presented) The method of Claim 19, wherein the difference threshold test keeps only those components whose squared coefficients and/or other squared parameter values differ between groups by more than some threshold amount.

26. (previously presented) A method of reconstructing a representative average signature signal for a collection of signals and of visualizing said signature signal, comprising the steps of:

a) parameterizing a dictionary of prototype signals in at least one variable;

b) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

c) calculating a parametric mean over the signal group of interest;

d) sub-selecting two or more prototype elements from the calculated parametric mean set by means of similarity or difference tests; and

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e) summing said sub-selected parametric mean prototype elements scaled by their respective parametric mean coefficient in order to recover a representative signal.

27. (previously presented) A method of reconstructing a signature signal representative of the similarity or difference between signals or groups of signals within a collection and of visualizing said signature signal, comprising the steps of:

a) parameterizing a dictionary of prototype signals in at least one variable;

b) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

c) calculating a parametric mean for each signal or subgroup of signals;

d) sub-selecting at least one prototype element relevant to the comparison between subgroups from the calculated parametric mean sets; and

e) summing said sub-selected parametric mean elements scaled by their proportional coefficients in order to recover a representative signal.

28. (previously presented) A method of ascertaining and characterizing similarities and differences between a collection of at least one signal and a group of uncorrelated baseline signals, comprising the steps of:

a) parameterizing a dictionary of prototype signals in at least one variable, including at least the variable of position;

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b) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

c) calculating a list of parametric mean prototype elements for the collection as a function of position by averaging all parameters except position;

d) calculating the RMS amplitude over all possible positions of each of the parametric mean prototype elements within the baseline signal group; and

e) rescaling the coefficients derived in step (b) by the RMS baseline amplitude values.

29. (previously presented) The method of Claim 28, additionally comprising the step of making comparisons between at least one signal with the baseline data by considering the proportionate change in said signal relative to the baseline for specific selected prototype elements scaled by their RMS amplitude.

30. (currently amended) A ~~Method~~ method of comparing a collection of signals to itself in order to automatically discover components of interest, comprising the steps of:

a) parameterizing a dictionary of prototype signals in at least one variable, including at least the variable of position;

b) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

c) calculating a list of parametric mean prototype elements for the collection as a function of position by averaging all parameters except position;

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d) calculating the RMS amplitude over all possible positions of each of the parametric mean prototype elements within the collection of signals; and

e) rescaling the coefficients derived in (b) by the RMS baseline amplitude values.

31. (previously presented) A method of data compression and retrieval for a collection of signals and of noise reduction for a collection of signals, comprising the steps of:

a) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

b) applying at least one threshold to sub-select a list of at least one prototype element from those derived in step (a);

c) storing information sufficient to describe said sub-selected prototype elements, along with respective coefficients for each signal; and

d) reconstructing each signal from the sum of stored prototype elements multiplied by their respective coefficients.

32. (previously presented) A method of data compression and retrieval for a collection of signals and of noise reduction for a collection of signals, comprising the steps of

a) parameterizing a dictionary of prototype signals in at least one variable, including at least the variable of position;

b) designating a group of baseline signals;

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c) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

d) calculating a list of parametric mean prototype elements for the collection as a function of position by averaging all parameters except position;

e) calculating the RMS amplitude over all possible positions of each of the parametric mean prototype elements within the baseline signal group;

f) rescaling the coefficients derived in step (c) by the RMS baseline amplitude values;

g) applying at least one threshold to sub-select a list of at least one prototype element from those derived in step (c);

h) storing information sufficient to describe said sub-selected prototype elements, along with respective coefficients for each signal; and

i) reconstructing each signal from the sum of stored prototype elements multiplied by their respective coefficients.

33. (previously presented) The method of Claim 32, wherein the designated baseline signal group includes at least one signal from the target collection of signals to be processed.

34. (previously presented) A method of data compression and retrieval for a collection of signals and of noise reduction for a collection of signals, comprising the steps of .

a) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element, with

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stopping criteria selected such that the algorithm will end with signal residuals smaller in magnitude than a desired resolution;

b) storing information sufficient to describe the selected prototype dictionary elements, along with respective coefficients for each signal; and

c) reconstructing each signal from the sum of stored prototype elements multiplied by their respective coefficients.

35. (previously presented) A method of data compression and retrieval for a collection of signals and of noise reduction for a collection of signals, comprising the steps of

a) parameterizing a dictionary of prototype signals in at least one variable, including at least the variable of position;

b) designating a group of baseline signals;

c) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element, with stopping criteria selected such that the algorithm will end with signal residuals smaller in magnitude than a desired resolution;

d) calculating a list of parametric mean prototype elements for the collection as a function of position by averaging all parameters except position;

e) calculating the RMS amplitude over all possible positions of each of the parametric mean prototype elements within the baseline signal group;

f) rescaling the coefficients derived in step (c) by the RMS baseline amplitude values;

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g) storing information sufficient to describe said sub-selected prototype elements, along with respective coefficients for each signal; and

h) reconstructing each signal from the sum of stored prototype elements multiplied by their respective coefficients.

36. (previously presented) The method of Claim 35, wherein the designated baseline signal group includes at least one signal from the target collection of signals to be processed.

37. (previously presented) A method of data compression for a sequential collection of signals, comprising the steps of

a) storing information sufficient to reconstruct a first signal;

b) creating a sub-collection of signals comprising at least one previously stored signal and at least one additional signal;

c) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signals in said sub-collection in terms of at least one prototype dictionary element;

d) sub-selecting those prototype elements that represent differences between each additional signal and the previous signal or group of signals within the sub-collection; and

e) storing information sufficient to describe said sub-selected prototype elements, along with respective coefficients for each additional signal in the sub-collection.

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38. (previously presented) A method of data compression for a sequential collection of signals, comprising the steps of:

a) parameterizing a dictionary of prototype signals in at least one variable, including at least the variable of position;

b) storing information sufficient to reconstruct a first signal;

c) creating a sub-collection of signals comprising at least one previously stored signal and at least one additional signal;

d) designating a group of baseline signals;

e) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

f) calculating a list of parametric mean prototype elements for the collection as a function of position by averaging all parameters except position;

g) calculating the RMS amplitude over all possible positions of each of the parametric mean prototype elements within the baseline signal group;

h) rescaling the coefficients derived in step (e) by the RMS baseline amplitude values;

f) sub-selecting those prototype elements that represent differences between each additional signal and the previous signal or group of signals within the sub-collection; and

i) storing information sufficient to describe said sub-selected prototype elements, along with respective coefficients for each additional signal in the sub-collection.

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39. (previously presented) The method of Claim 38, wherein the designated baseline signal group includes at least one signal from the target collection of signals to be processed.

40. (previously presented) A method of automatically re-aligning signals with unknown jitter variations in at least one parameter in order to compensated for said jitter, comprising the steps of:

a) creating an aggregate collection of the signals of interest;

b) parameterizing a dictionary of prototype signals in at least one variable, including at least those variables to be re-aligned;

c) applying either the method of Claim 9 or the method of Claim 13 to represent each signal in said aggregate collection in terms of at least one prototype dictionary element;

d) calculating a parametric mean over the signal group of interest;

e) for each signal in the collection, correcting each jittered parameter by an amount proportionate to its mean variation from the respective group parametric mean.

41. (previously presented) A method of automatically generating an application-specific dictionary from a general-purpose dictionary, based upon on a collection of at least one signal, comprising the steps of

a) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

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b) applying at least one threshold to extract a subset of the resulting prototype elements derived in (a); and

c) creating a new dictionary based on said subset of extracted prototype elements and/or combinations thereof.

42. (previously presented) A method of automatically generating an application-specific dictionary from a general-purpose dictionary, based upon on a collection of at least one signal, comprising the steps of:

a) parameterizing a dictionary of prototype signals in at least one variable, including at least the variable of position;

b) designating a group of baseline signals;

c) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

d) calculating a list of parametric mean prototype elements for the collection as a function of position by averaging all parameters except position;

e) calculating the RMS amplitude over all possible positions of each of the parametric mean prototype elements within the baseline signal group;

f) rescaling the coefficients derived in step (c) by the RMS baseline amplitude values;

g) applying at least one threshold to extract a subset of the resulting prototype elements derived in (c); and

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h) creating a new dictionary based on said subset of extracted prototype elements and/or combinations thereof.

43. (previously presented) The method of Claim 42, wherein the designated baseline signal group includes at least one signal from the target collection of signals to be processed.

44. (previously presented) A method of automatically sorting novel data based upon a collection of at least one previous group of related data, comprising the steps of

a) applying either the method of Claim 9 or the method of Claim 13 in order to represent each data signal in said collection in terms of at least one prototype dictionary element;

b) applying at least one threshold to extract a subset of the prototype elements derived in (a); and

c) determining an inner product between each novel data signal and the sub-selected prototype elements derived in (b).

45. (currently amended) A method of automatically sorting novel data based upon a collection of at least one previous group of related data, comprising the steps of:

a) parameterizing a dictionary of prototype signals in at least one variable, including at least the variable of position;

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b) designating a group of baseline signals;

c) applying either the method of Claim 9 or the method of Claim 13 in order to represent each signal in said collection in terms of at least one prototype dictionary element;

d) calculating a list of parametric mean prototype elements for the collection as a function of position by averaging all parameters except position;

e) calculating the RMS amplitude over all possible positions of each of the parametric mean prototype elements within the baseline signal group;

f) rescaling the coefficients derived in step (c) by the RMS baseline amplitude values;

g) applying at least one threshold to extract a subset of the prototype elements derived in (c); and

h) determining an inner product between each novel data signal and the sub-selected prototype elements derived in step (g).

46. (previously presented) The method of Claim 45, wherein the designated baseline signal group includes at least one signal from the collection of previous groups of related data.

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REMARKS

Reconsideration and expeditious allowance is respectfully requested. Claims 5 through 46 remain in the case. Applicant has amended the pending claims and replaced the Abstract in an effort to overcome Examiner's rejections.

Specifically, Applicant has corrected the listing of references referred to in the Office Action by filing an Information Disclosure Statement, dated July 15, 2005 to formally disclose any reference called out in the body of the specification. Applicant has also added other references subsequently determined to be possibly relevant.

Applicant is submitting herewith a substitute Abstract. Applicant believes that this substitute overcomes the Examiner's rejection.

Finally, Applicant submits herewith amended claims that Applicant believes overcomes the § 112 rejections listed on pages 3 and 4 of the Office Action. Applicant has changed the referencing of the claims to indicate whether a use of a term properly relates back to an antecedent basis or alternatively is the antecedent basis for other uses of the term. In the course of making these changes, it was determined that other technical changes to some of the claims were also necessary, as indicated.

In view of Examiner's indication at page 4 of the Office Action that Claims 5 through 46 would be allowable if rewritten to overcome § 112 rejections, Applicants respectfully request that the Examiner now issue a Notice of Allowance. However, should there remain unresolved issues that require adverse action, it is respectfully requested that the Examiner

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telephone Frederick C. Williams, Applicants' Attorney at (202) 842-0445 so that such issues may be resolved as expeditiously as possible.

For these reasons, and in view of the above amendments, this application is now considered to be in condition for allowance and such action is earnestly solicited.

Respectfully submitted,

July 19, 2005
Date

Frederick C. Williams
Attorney/Agent for Applicant(s)
Reg. No. 36,969

Frederick C. Williams
Burns & Levinson LLP
1030 Fifteenth Street, N.W.
Suite 300
Washington, DC 20005-1501
Tel. (202) 842-0445

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant(s): Sieracki	
Application No.: 10/748,182	Art Unit: 2863
Filed: 12/31/2003	Examiner: Bui, Bryan
Title: Greedy Adaptive Signature Discrimination System and Method	
Attorney Docket No.: 90013.0.1	

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE UNDER 37 CFR 1.111

Dear Sir:

In response to the Office Action of May 16, 2005, please amend this application as follows:

Adjustment Date: 09/28/2005 SDIRETA1
07/29/2005 LSPRUELL 00000001 502383 10748182
01 FC:2202 475.00 CR

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